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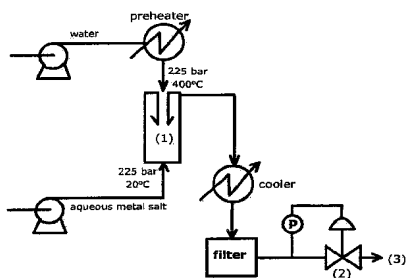
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(54) Title: COUNTER CURRENT MIXING REACTOR

A diagram of the funnel shaped supercritical outlet



Schematic representation of a rig which incorporates the mixing reactor of the invention allowing continuous production of particles.



(57) Abstract: A mixing reactor for mixing efficiently streams of fluids of differing densities. In a preferred embodiment, one of the fluids is supercritical water, and the other is an aqueous salt solution. Thus, the reactor enables the production of metal oxide nanoparticles as a continuous process, without any risk of the reactor blocking due to the inefficient mixing inherent in existing reactor designs.



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